



AF / 3627

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Kesayoshi IGUCHI et al.

Serial No. 09/488,527

Art Unit:: 3627

Filed: January 21, 2000

Examiner: Andrew Joseph Rudy

For: A METHOD OF  
PROCESSING  
CUSTOMER'S ORDERS  
AND A CUSTOMER'S  
ORDER PROCESSING  
APPARATUS

Atty Docket: 0102/0095

SUBMISSION OF APPEAL BRIEF

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313

Sir:

Attached in triplicate is the revised Appeal Brief filed in response to the Office Action dated June 25, 2003.

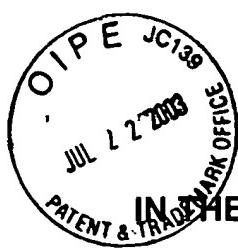
Respectfully submitted,

A handwritten signature in black ink, appearing to read "Louis Woo".

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Date: July 22, 2003



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF APPEALS**

Appellant: Kesayoshi IGUCHI et al. )  
Serial No: 09/488,527 ) Attorney Docket: 0102/0095  
Filed: January 21, 2000 )  
For: A METHOD OF PROCESSING ) Appeal No.  
CUSTOMER'S ORDERS AND A )  
CUSTOMER'S ORDER )  
PROCESSING APPARATUS )

**APPELLANT'S BRIEF ON EX PARTE APPEAL**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This is a brief for appealing the final rejecting of pending claims 3-9 of the above-identified application.

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### **REAL PARTY IN INTEREST**

The real party in interest for this appeal is Matsushita Electric Industrial Co., Ltd. to whom the inventors assigned the invention per an Assignment dated September 20, 1999.

### **RELATED APPEALS AND INTERFERENCES**

As far as is known, there are no appeals or interferences that would directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

### **STATUS OF CLAIMS**

Claims 1-31 were presented for prosecution with the filing of this application on January 21, 2000. In response to an office action dated October 23, 2001, an amendment dated January 10, 2001 amended claims 1, 2, 3, 7, 9, 10 and 31. Claims 32 and 33 were added. In response to an office action dated April 11, 2002 finally rejecting claims 1-33, a 37 C.F.R. 1.116 amendment was filed on April 26, 2002. No claims were amended by the Rule 116 amendment. An advisory action dated June 14, 2002 maintained the rejection of claims 1-33.

After the filing of an Appeal Brief on September 30, 2002, an Office Action dated December 10, 2002 reopened the prosecution. The only difference between the December 10, 2002 Office Action and the final rejection Office Action dated April 11, 2002 was the additional rejection of claims 1-15, 31 and 32 under 35 U.S.C. 101. There was no amendment to the claims in response to the Office Action dated December 10, 2002.

After the filing of an Appeal Brief on May 2, 2003 appealing the rejections set forth in the Office Action dated December 10, 2002, an Office Action dated June 25, 2003 asserts that the May 2, 2003 Appeal Brief was deficient because not all claims were discussed in the Summary of Invention portion of the Brief (item 2 of Office Action) and not all dependent claims were discussed in the Argument in view of the

statement made by Appellants in the Grouping of Claims section that all of the claims do not stand or fall together. (Item 3 of Office Action) Accordingly, the examiner required the submission of the instant revised brief.

The claims herein on appeal, as reproduced in Appendix A, are claims 1-33.

### **STATUS OF AMENDMENTS**

A 37 C.F.R. 1.116 amendment was filed on April 26, 2002 in response to an office action dated April 11, 2002 in which the examiner finally rejected all of the pending claims. There were no amendments made to any of the pending claims in the after final Rule 116 amendment.

There was no amendment filed in response to the Office Action dated December 10, 2002 reopening the prosecution of the instant application.

### **SUMMARY OF THE INVENTION<sup>1</sup>**

The present invention relates to a method, and an apparatus therefor, of processing orders from customers and displaying such orders.<sup>2</sup>

Claims 1, 16, 21, 31, 32 and 33 are independent.

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<sup>1</sup> This Appeal Brief is filed in part in response to the requirement by the examiner (item 2 of the Office Action dated June 25, 2003) that the Summary of the Invention section is deficient because "The drawing reference characters for each claim (not just a selected number) at issue [is] required by 37 CFR 1.192(c)(5)".

The only claims that were missing from the Summary of the Invention section of the Appeal Brief filed on May 2, 2003 were claims 4, 10, 19, 23, 25, 28 and 30. Those claims were not considered to be at issue. However, to ensure that the appeal process goes forward, discussions of those claims have been inserted into the Summary of the Invention section of the current Appeal Brief. Accordingly, all of the claims pending in this application, whether deemed to be at issue or not, are discussed in the Summary of Invention section.

<sup>2</sup> Insofar as the only difference between the Office Action dated December 10, 2002 and the final rejection Office Action dated April 11, 2002 was the additional rejection of claims 1-25, 31 and 32 under 35 U.S.C. 101, for this Appeal Brief, aside from the addition of the discussion of the claims noted above in the Summary of Invention section, the issue and the arguments relating to the 35 U.S.C. 101 rejection are imported from the Appeal Brief dated May 2, 2003, and the remainder of the contents of the instant Appeal Brief are imported from the Appeal Brief filed on September 30, 2002.

Claim 1 recites a method of processing customer orders that includes the following steps: (a) storing setting data for every article [page 14, lines 9-15; page 17, lines 6-7]<sup>3</sup>; (b) inputting the ordered articles and storing the order data of the ordered articles; (c) predicting the quantities of the articles to be prepared in accordance with the stored order data in response to a command signal [page 15, line 25 to page 16, line 6; page 17, lines 9-12]; (d) displaying the quantities of every article that is to be prepared at a given time period in accordance with the setting data in response to the command signal at a peak time [page 15, line 25 to page 16, line 11; page 16, line 18 to page 17, line 2; page 17, lines 12-17]; and (e) displaying the respective sets of input order articles at non-peak times. [page 16, lines 12-17]

The recited claim 1 method therefore processes customer orders by, upon input of the ordered articles and the stored setting data, predicting the quantities of the articles that need to be prepared. Further, the quantities of every article that is to be prepared at a given time in accordance with the setting data at a peak time is displayed in response to a command signal. Furthermore, the different sets of input ordered articles are displayed at non-peak time. This process is best illustrated with reference to Figs. 3 and 4 of the instant at issue application, attached to this Brief as Appendix B. Note that Fig. 3 shows the sets of orders displayed at non-peak times. In particular, order number 0103 shows that two hamburgers, two cheeseburgers and one large fry were ordered. Order number 0104 shows two medium nuggets, one small fry, two cheeseburgers and one hamburger were ordered. And order number 0105 shows that a customer has order one hamburger, one big burger, one medium fry and one small nugget.

Thus, assuming that each of the orders 0103-0104 were placed by different customers, the cook, upon seeing the orders, can, if he chooses to, prepare each of the orders separately by for example preparing the two hamburgers, two cheeseburgers and one large fry for order number 0103 first, and then the two

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<sup>3</sup> The pages bracketed refer to the pages in the specification of the at issue application.

medium nuggets, one small fry, two cheeseburger and one hamburger for order number 0104, etc.

On the other hand, at peak time where the cook does not have the luxury of preparing each order separately, as a stream of customer orders are input to the various electronic cash registers 1A and 1B, then the display as illustrated in Fig. 4 is shown to the cook to assist him in the preparation of the various items that make up the different orders. As specifically shown in Fig. 4, targeted number of different items are to be prepared. For example under Q-5, one hamburger, one cheeseburgers and one medium fry need to be prepared every 5 minutes. So, too, two hamburgers, one cheeseburger, one teriyaki, one small fry, two medium fries and one large fry are to be prepared every 10 minutes. Thus, the cook knows what items need to be prepared, for example, every 5 minutes and every 10 minutes as shown in Fig. 4.

Claims 2-15 depend, either directly or indirectly, from claim 1. Claim 2 defines step (a) of claim 1 to include the step of inputting the setting data for every to be stored article. [page 17, lines 6-7]

Claim 3 further defines claim 1 with the steps of: (f) storing peak time zone data [page 18, lines 6-10; Fig. 7]; (g) detecting the present time [page 18, lines 16-17]; and (h) judging whether the present time is within a peak time zone in accordance with the stored peak time zone data to generate the command signal. [page 18, lines 17-22]

Claim 4 depends from claim 3 and further defines the step of storing peak time zone data to include the step of inputting the peak time zone data. [page 18, lines 6-10]

Claim 5 defines claim 1 by reciting the additional step of providing a push switch responsive to an operator for generating the command signal. [Third embodiment; page 21, lines 12-18]

The step of providing a rotary switch for generating the command signal is recited in claim 6. [Fourth embodiment; page 23, lines 22-24]

Claims 7 and 8 relate to the fifth embodiment of the instant invention as shown in Fig. 12. In particular, claim 7 further defines the method of claim 3 by including the steps of: storing a predetermined number; detecting the number of customers from the order data [page 27, lines 2-17]; and predicting the peak time zone in accordance with the predetermined number and the detected number of customers in accordance with the predicted peak time zone to generate the peak time zone data to be stored in step (f). [page 27, line 18 to page 28, line 23] Claim 8 further defines claim 7 by reciting the step of inputting and storing the predetermined number. [page 27, lines 5-16]

The sixth embodiment disclosed in the disclosure is covered by claim 9 in which there is further recited the step of judging whether the present day is a weekday or holiday, wherein in step (h) the command signal is generated in accordance with the stored weekday peak time zone data, the stored holiday peak time zone, the present time and the present date. [page 29, line 2 to page 30, line 9]

Claim 10 depends from claim 9 and defines step f to include the step of inputting the weekday peak time zone data and the holiday peak time zone data for storage. [Page 29, lines 12-15]

The seventh embodiment as shown in Fig. 16 is defined by claim 11 which further recites the steps of: storing a reference number [page 32, lines 15-18]; detecting the number of customers [page 32, line 34 to page 33, line 1]; and judging whether it is in a peak time condition in accordance with the reference number and the detected number of customers to generate the command signal when the detected number of customer exceeds the predetermined number [page 33, line 1 to page 34, line 16].

The eighth embodiment as shown in Fig. 18b is defined by claims 12 and 13. In particular, claim 12 recites the step of transmitting the command; and receiving the command to generate the command signal. [page 35, line 22 to page 36, line 11] Claim 13 further defines claim 12 by reciting the step of inputting the command to be transmitted. [page 38, lines 12-19]

The ninth embodiment as shown in Fig. 22 is defined by claims 14 and 15. Claim 14 further defines claim 1 by reciting the steps of: storing predetermined number; detecting the number of the ordered articles in a pending condition in response to the order data and a prepared command signal [page 39, lines 6-16]; and judging whether it is in a peak time condition to generate the command signal when the detected number of the ordered articles in the pending condition exceeds the predetermined number. [page 39, line 23 to page 40, line 5] The step of inputting the predetermined number is defined by claim 15.

The apparatus of the instant invention is set forth in claim 16. Specifically, the customer order processing apparatus of claim 16 includes storing means (14) for storing setting data for every article; inputting means (1a, 1b, 4) for inputting ordered articles and storing order data of the ordered articles; predicting means (11) for predicting the quantities of the articles to be prepared in accordance with the stored order data in response to a command signal [page 15, line 10 to page 16, line 11]; and display means (2) for displaying the quantities of every article to be prepared at a given time period in accordance with the setting data in response to the command signal at a peak time, and for displaying respective sets of input ordered articles at non-peak times. [page 16, line 11 to page 17, line 25; see also Fig. 1b] Note that the display means of the customer order processing apparatus of claim 16 displays both exemplary Figs. 3 and 4, depending on whether it is non-peak time or peak time, respectively.

Claim 17 further defines the storing means (14) to include setting data input means (2, 4) for inputting the setting data for every article to be stored in the storing means. [page 14, lines 6-15]

Claim 18 illustrates the embodiment shown in Figs. 6 and 7 in which the apparatus of claim 16 is recited to include: peak time zone data storing means (14) for storing peak time zone data; detecting means (14) for detecting the present time; and judging means (11) for judging whether the present time is within a peak time zone to generate the command signal in accordance with the peak time zone data and the present time. [Second embodiment disclosed on pages 18-23]

Claim 19 depends from claim 18 and defines the peak time zone data storage means as comprising a peak time zone inputting means (1a, 1b) for inputting the peak time zone data. (Fig. 6)

Claim 20 defines the use of a push button responsive to an operator for generating the command signal [page 21, lines 12-18], and claim 21 recites a rotary switch (20) being used for generating the command signal. [Fig. 1b; page 14, lines 2-3] Claim 22 further defines the apparatus of claim 18 by reciting a predetermined number storing means (13) for storing a predetermined number; a detecting means (11) for detecting the number of customers from the order data; and predicting means (11) for predicting the peak time zone in accordance with the predetermined number and the detected number of customers to generate the peak time zone data stored in the peak time zone data store means, the judging means generating the command signal in accordance with the stored predicted peak time zone data and the present time. [Fifth embodiment, page 27, line 18 to page 18, line 23]

Claim 23 depends from claim 22, and further defines a predetermined number inputting means (1, 4) for inputting the predetermined number so as to be stored in the predetermined number storing means (14). (Fig. 12) [page 27, lines 5-9]

Claim 24 defines the peak time zone data store means (14, 141, 142) as storing weekday peak time zone data and holiday peak time zone data as the peak time zone data. Claim 24 further recites present date detecting means (11) for detecting the present date and judging whether the present date is a weekday or a holiday, so as to generate the command signal in accordance with the stored

weekday and holiday peak time zone, the present time and the present date. [Sixth embodiment; Fig. 14; page 29, line 5 to page 32, line 3]

Claim 25 depends from claim 24 and further defines the data inputting means (4 or 1a, 1b) for inputting the weekday peak time zone data and holiday peak time zone data.

Claim 26 defines the apparatus of claim 16 to include a reference number storing means (14) for storing a reference number; a detecting means (11) for detecting the number of customers [page 32, lines 15-18]; and judging means for judging whether it is the peak time condition in accordance with the reference number and the detected number of customers generate the command signal when the detected number of customers exceeds the predetermined number. [Seventh embodiment; Fig. 16; page 32, line 24 to page 34, line 16]

Claim 27 further defines the apparatus of claim 16 to include transmitting means (311, 317) for transmitting the command; and receiving means (311, 317) for receiving the command to generate the command signal. [Eighth embodiment; Figs. 18a and 19; page 35, line 10 to page 37, line 12]

Claim 28 depends from claim 27 and defines a command inputting means (304) for inputting the command for transmission.

Claim 29 further defines the apparatus of claim 16 to include: predetermined number storing means (14) for storing a predetermined number; detecting means (11) for detecting the number of the ordered articles in a pending condition in response to the order data and a prepared command signal; and judging means (11) for judging whether it is in a peak time condition in accordance with the predetermined number and the detected number of the ordered articles in the pending condition to generate the command signal when the detected number of the ordered articles in a pending condition exceeds the predetermined number. [Ninth embodiment; page 39, line 6 to page 40, line 3]

Claim 30 depends from claim 29 and further defines inputting means (1, 4) for inputting the predetermined number.

Claim 31 is an independent method claim that comprises the steps of: (a) inputting and storing data of articles in accordance with the orders by the customer; (b) predicting the quantities of the ordered articles to be prepared in accordance with the stored data of articles in response to a command signal; (c) displaying the quantities of every article to be prepared in a given time period in accordance with the setting data in response to the command signal; and (d) displaying the respective sets of input ordered articles at time periods other than the given time period. Claim 31 therefore recites two displaying steps: namely, the displaying of every article to be prepared at a given time period in accordance with the setting data in response to a command signal, and the displaying of the different sets of input ordered articles at time periods other than the given time period.

Claim 32 recites a method of processing customers' orders that comprises the steps of: (a) storing setting data for every article; (b) inputting ordered articles and storing order data of the ordered articles; (c) predicting the quantities of the articles to be prepared in response to a command signal generated in accordance with the stored order data inputted for a given time period; and (d) displaying the quantities of the ordered articles in accordance with the setting data in response to the command signal. [page 13, line 11 to page 17, line 25]

Claim 33 recites the processing apparatus for effecting the method of claim 32. In particular, claim 33 comprises storing means (14) for storing setting data for every article; inputting means (1a, 1b, 4) for inputting ordered articles and storing order data of the ordered articles; predicting means (11) for predicting the quantities of the articles to be prepared in response to a command signal generated in accordance with the stored order data input for a given time period; and display means (2) for displaying the quantities for every one of the ordered articles in accordance with the setting data in response to the command signal. See Fig. 4.

The inventive process, and apparatus therefor, per the above discussed claims, would display the respective exemplary illustrations of Figs. 3 and 4 (claims 1-31), or display the illustration as shown in Fig. 4 for every article in accordance with the stored setting data for that article (claims 32 and 33).

### **ISSUES**

Per the Office Action dated December 10, 2002, in addition to maintaining the rejections of claims 1-33 under 35 U.S.C. 103(a) as being unpatentable over Savage U.S. patent 6,026,372 in view of any one of Cahlander et al. U.S. patent 4,922,435; 5,132,914 or 5,172,328, the examiner has also rejected claims 1-15, 31 and 32 under 35 U.S.C. 101 as being directed to non-statutory subject matter.

The issues presented herein on appeal are therefore: (1) are the methods as set forth in claims 1-15, 31 and 32 abstract ideas per held by the examiner? and (2) are claims 1-33 obvious over the combination of Savage and any one of the Cahlander patents?

### **GROUPING OF CLAIMS<sup>4</sup>**

Since claims 1, 16, 31, 32 and 33 are each independent, each of those claims should be adjudged individually. As for claims 2-15 which depend from claim 1 and claims 17-30 which depend from claim 16, appellants respectfully submit that to the extent that those dependent claims are discussed hereinbelow vis-a-vis the prior art, those discussed dependent claims should likewise be adjudged individually. Accordingly, appellants respectfully submit that all of the claims do not stand or fall

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<sup>4</sup> The Statement upon which the examiner relied for asserting deficiency of the Appeal Brief filed on May 2, 2003 under item 3 of the Office Action is reproduced herein: "Accordingly, Appellants respectfully submit that all of the claims do not stand or fall together, but rather that each of the claims as discussed above in the Summary of the Invention section and discussed hereinbelow with respect to the prior art should be adjudged separately from the independent claims from which they depend." (Underline Added) Appellants believe that the above quoted sentence should have made it clear that only those claims to be argued in the Argument section are to be adjudged separately. That notwithstanding, to make sure no further misunderstanding, Appellants have now set forth the specific numbers of the claims that should be adjudged individually.

together, but rather that each of independent claims 1, 16, 31, 32, 33 and dependent claims 3, 9, 11, 14, 18, 24, 26 and 29 as discussed above in the Summary of the Invention section and discussed hereinbelow with respect to the prior art should be adjudged separately.

## ARGUMENT

### Issue 1

Is the subject matter set forth in method claims 1-15, 31 and 32 statutory subject matter under 35 U.S.C. 101?

35 U.S.C. 101 states: "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title."

In rejecting claims 1-15, 31 and 32 under 35 U.S.C. 101, the examiner asserts that those claims "are merely an abstract idea without a practical application." The examiner further states that: "... due to new USPTO office policy this new ground of rejection is now mandated." (Page 2 of December 10, 2002 Office Action)

It is well established that abstract ideas, in terms of patents, are those discoveries or general scientific laws including epoch making discoveries that are purely ideas. Such abstract ideas may well include those made by Newton (universal gravitation), Faraday (electromagnetic induction) and Einstein (photoelectric effect). However, the applications of those discoveries and scientific laws which lead to practical uses are patentable. This well established concept is set forth by the CAFC in a number of cases, including State Street Bank & Trust Co. v. Signature Financial Group Inc., 149 F.3d 1368, 47 U.S.P.Q.2d 1596 (Fed. Cir. 1998).

Indeed, in State Street Bank & Trust, Judge Rich explains some of the precedential decisions as follows:

[38] Unpatentable mathematical algorithms are identifiable by showing they are merely abstract ideas constituting disembodied concepts or truths that are not "useful." From a practical standpoint, this means that to be patentable an algorithm must be applied in a "useful" way. In Alappat, we held that data, transformed by a machine through a series of mathematical calculations to produce a smooth waveform display on a rasterizer monitor, constituted a practical application of an abstract idea (a mathematical algorithm, formula, or calculation), because it produced "a useful, concrete and tangible result"-the smooth waveform.

[39] Similarly, in Arrhythmia Research Technology Inc. v. Corazonix Corp., 958 F.2d 1053, 22 USPQ2d 1033 (Fed. Cir. 1992), we held that the transformation of electrocardiograph signals from a patient's heartbeat by a machine through a series of mathematical calculations constituted a practical application of an abstract idea (a mathematical algorithm, formula, or calculation), because it corresponded to a useful, concrete or tangible thing-the condition of a patient's heart.

[40] Today, we hold that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces "a useful, concrete and tangible result"-a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.

Judge Rich further states:

[44] After Diehr and Chakrabarty, the Freeman-Walter-Abele test has little, if any, applicability to determining the presence of statutory subject matter. As we pointed out in Alappat, 33 F.3d at 1543, 31 USPQ2d at 1557, application of the test could be misleading, because a process machine, manufacture, or composition of matter employing a law of nature, natural phenomenon, or abstract idea is patentable subject matter even though a law of nature, natural phenomenon, or abstract idea would not, by itself, be entitled to such protection. \*fn6 The test determines the presence of, for example, an algorithm. Under Benson, this may have been a sufficient indicium of non-statutory subject matter. However, after Diehr and Alappat, the mere fact that a claimed invention involves inputting numbers, calculating numbers, outputting numbers, and storing numbers, in and of itself, would not render it non-statutory subject matter, unless, of course, its operation does not produce a "useful, concrete and tangible result." Alappat, 33 F.3d at 1544, 31 USPQ2d at 1557. \*fn7 After all, as we have repeatedly stated,

[45] every step-by-step process, be it electronic or chemical or mechanical, involves an algorithm in the broad sense of the term. Since § 101 expressly includes processes as a category of inventions which may be patented and § 100(b) further defines the word "process" as meaning "process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material," it follows that it is no ground for holding a claim is directed to non-statutory subject matter to say it includes or is directed to an algorithm. This is why the proscription against patenting has been limited to mathematical algorithms. 149 F3d at 1374, 47 U.S.P.Q.2d at 1602.

In AT&T Corp. v. Excel Communications Inc., 172 F.3d 1352, 50 U.S.P.Q.2d 1447 (Fed. Cir. 1999), the CAFC, in reversing the holding of non-statutory subject matter for the method claims at issue in that case, confirmed and extended the State Street holding to method claims per the following:

[41] The State Street formulation, that a mathematical algorithm may be an integral part of patentable subject matter such as a machine or process if the claimed invention as a whole is applied in a "useful" manner, follows the approach taken by this court en banc in *In re Alappat*, 33 F.3d 1526, 31 USPQ2d 1545 (Fed. Cir. 1994).

...  
[44] In both *Alappat* and *State Street*, the claim was for a machine that achieved certain results. In the case before us, because Excel does not own or operate the facilities over which its calls are placed, AT&T did not charge Excel with infringement of its apparatus claims, but limited its infringement charge to the specified method or process claims. Whether stated implicitly or explicitly, we consider the scope of § 101 to be the same regardless of the form - machine or process - in which a particular claim is drafted. See, e.g., *In re Alappat*, 33 F.3d at 1581, 31 USPQ2d at 1589 (Rader, J., Concurring) ("Judge Rich, with whom I fully concur, reads *Alappat*'s application as claiming a machine. In fact, whether the invention is a process or a machine is irrelevant. The language of the Patent Act itself, as well as Supreme Court rulings, clarifies that *Alappat*'s invention fits comfortably within 35 U.S.C. § 101 whether viewed as a process or a machine."); *State Street*, 149 F.3d at 1372, 47 USPQ2d at 1600 ("[F]or the purposes of a § 101 analysis, it is of little relevance whether claim 1 is directed to a 'machine' or a 'process,' . . . ."). Furthermore, the Supreme Court's decisions in *Diehr*, *Benson*, and *Flook*, all of which involved method (i.e., process) claims, have provided and supported the principles which we apply to both machine- and process-type claims. Thus, we are comfortable in

applying our reasoning in Alappat and State Street to the method claims at issue in this case. 172 F.3d at 1357, 50 U.S.P.Q.2d at 1453.

Thus, to apply a §101 rejection against a method claim, to the extent that such rejection still exists, the method claim must be narrowly limited to a mathematical algorithm in its abstract, so that there is no practical application for that algorithm or that no useful, concrete or tangible result may be produced from that method.

Appellants respectfully submit, per the following, that claims 1-15, 31 and 32 are drawn to processes that do have practical applications, in that the processes covered by independent method claims 1, 31 and 32 each produce a useful, concrete and tangible result.

Each of independent claims 1, 31 and 32 covers orders by customers that includes a number of steps. For method claim 1, these steps comprise: (a) storing setting data for every article; (b) inputting ordered articles and storing ordered data of the ordered articles; (d) displaying the quantities of every article to be prepared at a given time period in accordance with the setting data in response to a command signal at a peak time; and (e) displaying respective sets of input ordered articles at non-peak times.

Note that actual data, namely setting data, is stored for every article which a customer may order. Moreover, the ordered articles, which presumably were given orally by a customer, are input and the order data of the ordered articles are stored, per step b. Just by steps a and b alone, it is clear that there is nothing abstract with respect to the processing steps of claim 1. Moreover, in steps d and e, claim 1 further defines displaying steps, with displays which are best shown in Figs. 3 and 4, of Appendix B. Again, there is nothing abstract about such displaying steps.

Claim 31, similar to claim 1, includes inputting and storing data of articles in accordance with orders by customers (per step a) and the displaying of the display, as shown in Figs. 3 and 4 in Appendix B, per the recited steps c and d. Moreover,

the quantity of the ordered articles to be prepared in accordance with the stored data of articles is predicted in response to a command signal in step b. None of those processes recited in claim 31 could be argued to be an abstract idea insofar as there are inputting, storing, predicting in response to a command signal, and displaying of the different views of articles to be prepared at a given time period in response to a command signal and the sets of input ordered articles at time periods other than a given time period.

The method of processing customers' orders in claim 32 also includes the steps of: (a) storing setting data for every article, (b) the inputting of ordered articles and the storing of order data of the ordered articles, (c) predicting of the quantities of the articles to be prepared in response to a command signal generated in accordance with the stored ordered data input for a given time period, and (d) the displaying of the quantities for every article in accordance with the setting data in response to the command signal. Again, there is nothing abstract about the various steps recited in claim 32, for clearly the inputting of ordered articles must be done manually by clerks who take orders from the customers. And the displaying of quantities of the articles, as shown in Figs. 3 and 4 of Appendix B, could only be displayed per a monitor.

In view of the above, Appellants respectfully submit that method claims 1-15, 31 and 32 fall clearly within the four corners of the statutory process covered by U.S.C. 101, for those claims do not recite mathematical algorithms that stand alone or abstract ideas, as each of those claims recites physical processing steps that provide a useful, concrete or tangible result. Accordingly, appellants respectfully submit that the rejection of claims 1-15, 31 and 32 under 35 U.S.C. 101 is not sustainable.

## Issue 2

Are claims 1-33 obvious over the combination of Savage and Cahlander under 35 U.S.C. 103(a) justifiable?

In rejecting claims 1-33 under 35 U.S.C. 103(a) as being unpatentable over Savage U.S. patent 6,026,372 in view of any one of Cahlander et al. U.S. patent 4,922,435, 5,132,914 or 5,72,328, the examiner asserts that Cahlander “show a method for cooking orders at peak and non-peak time periods using computer controlled command signals (e.g. columns 2-3 and claims 33-36 of Cahlander et al. U.S. patent 5,172,328.)” Page 2 of office action dated April 11, 2002. In the advisory action dated June 14, 2002, the examiner further states: “The claims along with the specification from Cahlander have been relied upon for the basis of the rejection. Note claims 33-36 are but illustrative (e.g. see claims 59-63 from Cahlander '328). It is the examiner's position that the motivation for peak and non-peak order of food flows from each Cahlander reference.” Page 2 of the advisory action.

The method of processing customer's orders as recited in claim 1 includes the following steps:

- (c) predicting quantities of said articles to be prepared in accordance with said stored order data in response to a command signal;
- (d) displaying said quantities of said every article to be prepared at a given time period in accordance with said setting data in response to said command signal at a peak time; and
- (e) displaying respective sets of input ordered articles at non-peak times.

The customer order processing apparatus of claim 16 includes the following means:

predicting means for predicting quantities of said articles to be prepared in accordance with said stored order data in response to a command signal; and

display means for displaying said quantities for said every article to be prepared at a given time period in accordance with said setting data in response to said command signal at a peak time, and for displaying respective sets of input ordered articles at non-peak times.

Savage U.S. patent 6,026,372 discloses a system that maintains an inventory of food items by predicting future needs. In particular, system 10 of Savage includes a "quantity on hand decision and registration means" 37 that determines the amount of food on hand. A "prediction commencement time decision means" 44 computes the proper time to transmit a cooking instruction for each food item by performing a number of calculations. As disclosed, when a food item is requested by a customer, the sales clerk would enter the selected food item at the electronic cash register entry panel 21, which causes the system to subtract the number of ordered food items from the present value of the quantity on hand. And should the total processed quantity value drops below a total quantity desired value, an instruction is sent by the "cooking instruction transmission means" 47 to the cooking station monitor 12 to initiate a cooking instruction for the selected food item(s). Upon receipt of the cooking instruction, the cook transmits a cooking initiated transmission signal to the system so that the number of that particular food item is updated. (column 3, lines 24-67)

Thus, the Savage system predicts for future need by comparing the value of the processed items on hand with a desired quantity at a particular time. If the total processed quantity is less than the desired quantity, then an instruction is sent to the cook to begin cooking the item. The number of items is updated when the cook inputs a signal to the system that the cooking process has actually been commenced. When the food item is completely processed, the cook initiates a finished input to the system, which updates the number of items. (Column 4, lines 1-64) As succinctly disclosed in column 5, lines 3-12, the Savage system "instructs

the cook to initiate a cooking process based upon the number of items on hand and currently being cooked in view of the number of items typically desired to have on hand at a particular time of the day. As such, the present system predicts future needs rather than statistically waiting to instruct a cooking operation upon the receipt of an actual order."

There is no disclosure in Savage of any displaying of the quantity of every article to be prepared at a given time period in accordance the setting data in response to a command signal at a peak time, and the displaying of the respective sets of input order articles at non-peak times, per set forth in claim 1. Nor does Savage disclose any display means, and the functions performed thereby, as set forth in claim 16.

Insofar as Cahlander et al. U.S. patent 5,172,328 is the latest of the Cahlander et al. U.S. patents relied upon by the examiner to issue and is a CIP and continuation of the earlier Cahlander patents, and further the examiner has relied on the claims of Cahlander '328 for his rejection, only Cahlander '328, which includes the disclosures of the earlier Cahlander patents, is to be discussed herein.

Cahlander '328 discloses a computer operated cooking cell (fry cell 111 and/or grill cell 145) that obtains data from electronic point of sale registers so that the food production may be modified based on the customer demand. Each of the cooking cells is composed of a robot, and various stations to which the robot is moved. The interfacing of a human operator and the cooking cell during normal operation can occur at three areas. (Column 2, lines 50-64) According to Cahlander '328, the computer that controls the cooking cell would generate a schedule of planning activities based on its memory files for the overall day in general terms and a more detailed plan for the short term periods. As the day progresses, the computer would compare the planned activities to the actual orders being processed. And if the realtime information differs significantly from the planned activities, then either one or both of the daily and short term plans may be modified, either automatically by the computer or by the operator. (Column 12, lines 36-66)

There is no teaching in Cahlander '328 (or the other Cahlander patents) of the display steps (d) and (e) of claim 1 or the display means recited in claim 16.

As noted above, the examiner relied upon the claims of Cahlander '328 for his rejection.

It has been well established that it is what is disclosed in the specification and not the claims that should be relied upon for disclosure. This was set forth by the Supreme Court in Mineral Separation North American Corp. v. Magma Copper Co., 280 U.S. 400, 50 S.Ct. 185, 74 L.Ed 511, 4 U.S.P.Q. 148 (S.Ct. 1930). In rejecting the petitioner's argument that the words "oily liquid" in claim 1 of the at issue patent reads on the wordings of the claims of an earlier patent, Justice Holmes states: "The question is not what is the precise scope of the claims in 835120, but what is disclosed in the specification and made known to the world." In In re Benno, 226 U.S.P.Q. 683 (Fed. Cir. 1985), Judge Rich, in rejecting the argument by the Board of Appeals that the claim of a reference "is broad enough to read on ... [the at issued invention]", states:

"Samuel F. B. Morse, the inventor of the telegraph, had a patent thereon, issued in 1840, containing a claim (which the Supreme Court held in valid) which was broad enough to read on the Modern Telex. See O'Reilly v. Morse, 56 U.S. 62, 112 (1853). By the Board's reasoning, Morse's telegraph patent therefore would have made the Telex obvious. The scope of a patent's claims determines what infringes the patent; it is no measure of what it discloses. A patent discloses only that which it describes, whether specifically or in general terms so as to convey intelligence to one capable of understanding. While it is true, as the Solicitor suggested at oral argument, that 'a claim is part of the disclosure,' the point is of significance principally in the situation where a patent application as filed contains a claim which specifically discloses something not disclosed in the descriptive part of the specification (claims being technically part of the specification,' 35

U.S.C. 112, 2d Par.), in which case the applicant may amend the specification without being charged with adding 'new matter,' within the meaning of Section 132....But that is not the situation here, Danti's claim 1 does not disclose any structure additional to what the Danti specification discloses." 220 U.S.P.Q. at 686-687. See also S3 Inc. v. nVidia Corp., 259 F.3d. 1364, 59 U.S.P.Q.2d 1745 (Fed. Cir. 2001) in which the CAFC, in reversing a District Court decision that the claim at issue was indefinite, states: "The purpose of claims is not to explain the technology or how it works, but to state the legal boundaries of the patent grant." 259 F.3d. 1368, 59 U.S.P.Q.2d 1749.

In view of the above well established quoted holdings by the courts, the reliance by the examiner of the claims of Cahlander '328 for rejecting the being appealed claims is respectfully submitted to be simply wrong and not sustainable, notwithstanding the fact that claims 33-36 and 59-63 of Cahlander '328 relied upon by the examiner have no bearing on the claimed invention as set forth in claims 1 and 16, and the other claims being appealed.

In maintaining his rejection, the examiner states: "To provide a method for displaying peak and non-peak order of food and computer controlled command signals for the food predicting system of Savage would have been obvious to one of ordinary skill in the art in view of either Cahlander et al. U.S. 4,922,435; Cahlander et al. U.S. 5,132,914, or Cahlander et al. U.S. 5,172,328. To do so would provide the well known option of using computer controlled command signals used in food systems." Pages 2 and 3 of office action dated April 11, 2002. The examiner further states: "It is the examiner's position that the modification for peak and non-peak order of food flows from each Cahlander reference." Page 2 of advisory action dated June 14, 2002.

As noted above with respect to claims 1 and 16, neither Savage nor Cahlander '328 discloses any display that displays the quantities of article to be prepared at a given time period in accordance with the setting data in response to

a command signal at a peak time, and displaying respective sets of input ordered articles at non-peak times. The respective illustrations of non-peak and peak times are shown in the appended Figs. 3 and 4 of the specification.

When rejecting a claim for obviousness under 35 U.S.C. 103(a), the examiner must articulate reasons for his decisions. In particular, the examiner must show that there is teaching, motivation, or suggestion of a motivation to combine the references relied on as evidence of obviousness. Such was set forth by the CAFC in In re Lee, 277 F.3d. 1338, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002). In vacating the Board's affirmation of the examiner's decision, the Lee Court states:

"When patentability turns on the question of obviousness, the search for an analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied upon as evidence of obviousness (cite omitted)...The factual inquiry whether to combine references must be thorough and searching. It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with....Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references....The need for specificity pervades this authority...the examiner can satisfy the burden of showing obviousness of the combination 'only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references'...The examiner's conclusory statements that 'the demonstration mode is just a programmable feature which can be used in many different device(s) for providing automatic introduction by adding proper programming software' and that 'another motivation would be that the automatic demonstration mode is user friendly and it

functions as a tutorial' do not adequately address the issue of motivation to combine. This factual question of motivation is material to the patentability, and could not be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to '[use] that which the inventor taught against its teacher.'" 277 F.3d 1342-46, 61 U.S.P.Q.2d 1434-36. See also In re Kotzab, 217 F.3d 1365, 55 U.S.P.Q.2d 1313 (Fed. Cir. 2000) and In re Dembiczik, 175 F.3d 994, 50 U.S.P.Q.2d 1646 (Fed. Cir. 1999).

Not only do the prior art references fail to disclose the switching operation whereby different illustrations such as those of Figs. 3 and 4 are displayed at non-peak and peak times, respectively, Appellants respectfully submit that the examiner also has failed to articulate with specificity any teaching, motivation or suggestion of a motivation in the references for combining those references as asserted in the office action. Accordingly, appellants respectfully submit that the rejection of claims 1 and 16 as being obvious over the combination of Savage and Cahlander '328 is not sustainable and should be reversed.

Claims 2-15 depend, either directly or indirectly, from claim 1. Claims 17-30 depend, either directly or indirectly, from claim 16. Accordingly, the rejection of those dependent claims under the combination of Savage and Cahlander '328 likewise is not sustainable. That notwithstanding, appellants respectfully submit further that claim 3, and its counterpart claim 18, each are even further removed from the prior art. To wit, claim 3 further recites the steps of: (f) storing peak time zone data; (g) detecting the present time; and (h) judging whether the present time is within a peak time zone in accordance with stored peak time zone data to generate the command signal. Counterpart peak time zone data storing means, detecting means and the judging means are recited in claim 18.

Neither Savage nor Cahlander '328 discloses the steps as set forth in claim 3, or the means recited in claim 18, for generating any command signal. In contrast,

as Callander '328 clearly discloses, its robotic system operates in accordance with planned activities, which may be modified by human interaction or by significant variants in the realtime information received. Savage, on the other hand, simply sets down a planned schedule, such as that shown in Fig. 4 of Savage, for predicting how many items to cook for a particular period of time. Thus, taken individually, each of claims 3 and 18 is not obvious over the combination of Savage and Cahlander '328.

Claim 9 recites the additional steps of: detecting the present date; and judging whether the present date is a weekday or a holiday, wherein in step (h), said command signals generated in accordance with said stored weekday peak time zone data, said stored holiday peak time zone, said present time, and the present date. Claim 11 recites the additional steps of: storing a reference number; detecting the number of customer; and judging whether it is in a peak time condition in accordance with said reference number and the detected number of customers to generate said command signal when the detected number of customer exceeds said predetermine number. Claim 14 recites the additional steps of: storing predetermined number; detecting the number of said ordered articles in a pending condition in response to said order data and a prepared command signal; and judging whether it is in a peak time condition to generate said command signal when the detected number of said ordered articles in said pending condition exceeds said predetermined number. The customer order processing apparatus defined in claims 24, 26 and 29 correspond to the methods set forth in claims 9, 11 and 14, respectively.

There is no disclosure or suggestion of any of the quoted steps/means as noted above for claims 9, 11, 14, 24, 26 and 29 in either Savage or Cahlander '328. There follows likewise no teaching, motivation, or suggestion of motivation in either Savage and Cahlander '328 that those references be combined and applied as suggested by the examiner. Accordingly, appellants respectfully submit that the obviousness rejection under 35 U.S.C. 103(a) of claims 9, 11, 14, 24, 26 and 29 is not sustainable individually, and therefore should be reversed.

Claim 31 defines a method of processing customer orders that includes the steps of: (b) predicting quantities of said ordered articles to be prepared in accordance with said stored data of articles in response to a command signal; (c) displaying said quantities for every said articles to be prepared at a given time period in accordance with said setting data in response to said command signal; and (d) displaying respective sets of input ordered articles at time periods other than said given time period.

Savage and Cahlander '328, as discussed above, does not appear to teach or suggest the predicting of the quantity of the ordered articles in accordance with stored data in response to a command signal, and the displaying of the quantities of every article to be prepared at a given time period in accordance with the setting data in response to the command signal, and the displaying of respective sets of ordered articles input at time period other than the given time period. Accordingly, the rejection of claim 31 is respectfully requested to be reversed.

Claim 32 recites the steps of: (c) predicting quantities of said articles to be prepared in response to a command signal generated in accordance with said stored order data input for a given time period; and (d) displaying said quantities for every said article in accordance with said setting data in response to said command signal. Corresponding predicting means and display means for performing the steps (c) and (d), respectively, are defined in claim 33.

Neither Savage nor Cahlander '328 discloses displaying of quantities of each article in accordance with the setting data in response to a command signal. At best, Cahlander '328 discloses the prior art display that is shown in Fig. 27 of the instant application. Accordingly, appellants respectfully submit that the rejection of claims 32 and 33 is not sustainable.

## CONCLUSION

In sum, Appellants respectfully submit that the rejection of claims 1-15, 31 and 32 under 35 U.S.C. 101 as being non-statutory subject matter is without merit. Appellants further respectfully submit that the rejection of claims 1-33 under 35 U.S.C. 103(a) as being unpatentable over Savage and the Cahlander patents is not sustainable. Accordingly, Appellants respectfully request that the rejection of claims 1-15, 31 and 32 under 35 U.S.C. 101 and the rejection of claims 1-133 under 35 U.S.C. 103(a) be reversed.

Respectfully submitted,

  
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## APPENDIX A

1. A method of processing customer's orders comprising the steps of:
  - (a) storing setting data for every article;
  - (b) inputting ordered articles and storing order data of said ordered articles;
  - (c) predicting quantities of said articles to be prepared in accordance with said stored order data in response to a command signal;
  - (d) displaying said quantities of said every article to be prepared at a given time period in accordance with said setting data in response to said command signal at a peak time; and
  - (e) displaying respective sets of input ordered articles at non-peak times.
2. A method as claimed in claim 1, wherein said step (a) further comprises the step of inputting said setting data for every to be stored article.
3. A method as claimed in claim 1, further comprising the steps of:
  - (f) storing peak time zone data;
  - (g) detecting the present time; and
  - (h) judging whether the present time is within a peak time zone in accordance with said stored peak time zone data to generate said command signal.
4. A method as claimed in claim 3, wherein said step of storing peak time zone data further comprising the step of inputting said peak time zone data so as to be stored.
5. A method as claimed in claim 1, further comprising the step of providing a push switch responsive to an operator for generating said command signal.
6. A method as claimed in claim 1, further comprising the step of providing a rotary switch for generating said command signal.
7. A method as claimed in claim 3, further comprising the steps of:  
storing a predetermined number;  
detecting the number of customers from said order data; and  
predicting said peak time zone in accordance with the predetermined number and the detected number of customers in accordance with said predicted peak time zone to generate said peak time zone data so as to be stored in step (f).

8. A method as claimed in claim 7, wherein said step of storing said predetermined number further comprising the step of inputting and storing said predetermined number.

9. A method as claimed in claim 3, wherein in said step (f), weekday peak time zone data and holiday peak time zone data are stored as said peak time zone data, said method further comprising the steps of:

detecting the present date; and

judging whether the present date is a weekday or a holiday, wherein in step (h), said command signal is generated in accordance with said stored weekday peak time zone data, said stored holiday peak time zone, said present time, and the present date.

10. A method as claimed in claim 9, wherein said step (f) further comprises the step of inputting said weekday peak time zone data and holiday peak time zone data so as to be stored.

11. A method as claimed in claim 1, further comprising the steps of:

storing a reference number;

detecting the number of customers; and

judging whether it is in a peak time condition in accordance with said reference number and the detected number of customers to generate said command signal when the detected number of customers exceeds said predetermined number.

12. A method as claimed in claim 1, further comprising the steps of:

transmitting said command;

receiving said command to generate said command signal.

13. A method as claimed in claim 12, further comprising the steps of:

inputting said command so as to be transmitted.

14. A method as claimed in claim 1, further comprising the steps of:

storing predetermined number;

detecting the number of said ordered articles in a pending condition in response to said order data and a prepared command signal; and

judging whether it is in a peak time condition into generate said command signal when the detected number of said ordered articles in said pending condition exceeds said predetermined number.

15. A method as claimed in claim 14, wherein said step of storing said predetermined number further comprising the step of inputting said predetermined number.

16. A customer's order processing apparatus comprising:  
storing means for storing setting data for every article;  
inputting means for inputting ordered articles and storing order data of said ordered articles;  
predicting means for predicting quantities of said articles to be prepared in accordance with said stored order data in response to a command signal; and  
display means for displaying said quantities for said every article to be prepared at a given time period in accordance with said setting data in response to said command signal at a peak time, and for displaying respective sets of input ordered articles at non-peak times.

17. A customer's order processing apparatus as claimed in claim 16, wherein said storing means comprises setting data inputting means for inputting said setting data every article to store said inputted setting data in said storing means.

18. A customer's order processing apparatus as claimed in claim 16, further comprising:  
peak time zone data storing means for storing peak time zone data;  
detecting means for detecting the present time; and  
judging means for judging whether the present time is within a peak time zone to generate said command signal in accordance with said stored peak time zone data and said present time.

19. A customer's order processing apparatus as claimed in claim 18, wherein said peak time zone data storing means comprises peak time zone inputting means for inputting said peak time zone data.

20. A customer's order processing apparatus as claimed in claim 16, further comprising:  
a push switch responsive to an operator for generating said command signal.

21. A customer's order processing apparatus as claimed in claim 16, further comprising:  
a rotary switch for generating said command signal.

22. A customer's order processing apparatus as claimed in claim 18, further comprising:

predetermined number storing means for storing a predetermined number;  
the-number-of-customer detecting means for detecting the number of customers from said order data; and

peak time zone predicting means for predicting said peak time zone in accordance with the predetermined number and the detected number of customers to generate said peak time zone data to be stored in said peak time zone data storing means, wherein said judging means generates said command signal in accordance with said stored predicted peak time zone data and said present time.

23. A customer's order processing apparatus as claimed in claim 22, further comprising predetermined number inputting means for inputting said predetermined number so as to be stored in said predetermined number storing means.

24. A customer's order processing apparatus as claimed in claim 18, wherein said peak time zone data storing means stores weekday peak time zone data and holiday peak time zone data as said peak time zone data, said customer's order processing apparatus further comprising present date detecting means for detecting the present date and judging whether the present date is a weekday or a holiday, wherein said judging means generates said command signal in accordance with said stored weekday peak time zone data, said stored holiday peak time zone, said present time, and the present date.

25. A customer's order processing apparatus as claimed in claim 24, further comprising data inputting means for inputting said weekday peak time zone data and holiday peak time zone data.

26. A customer's order processing apparatus as claimed in claim 16, further comprising:

reference number storing means for storing a reference number;  
the-number-of-customer detecting means for detecting the number of customers; and

judging means for judging whether it is in a peak time condition in accordance with said reference number and the detected number of customers to generate said command signal when the detected number of customers exceeds said predetermined number.

27. A customer's order processing apparatus as claimed in claim 16, further comprising:

transmitting means for transmitting said command; and

receiving means for receiving said command to generate said command signal.

28. A customer's order processing apparatus as claimed in claim 27, further comprising:

command inputting means for inputting said command so as to be transmitted.

29. A customer's order processing apparatus as claimed in claim 16, further comprising:

predetermined number storing means for storing predetermined number;

the-number-of-ordered-article detecting means for detecting the number of said ordered articles in a pending condition in response to said order data and a prepared command signal; and

peak time condition judging means for judging whether it is in a peak time condition in accordance with said predetermined number and the detected number of said ordered articles in said pending condition to generate said command signal when the detected number of said ordered articles in said pending condition exceeds said predetermined number.

30. A customer's order processing apparatus as claimed in claim 29, further comprising inputting means for inputting said predetermined number.

31. A method of processing customer's orders comprising the steps of:

(a) inputting and storing data of articles in accordance with orders by customers;

(b) predicting quantities of said ordered articles to be prepared in accordance with said stored data of articles in response to a command signal;

(c) displaying said quantities for every said articles to be prepared at a given time period in accordance with said setting data in response to said command signal; and

(d) displaying respective sets of input ordered articles at time periods other than said given time period.

32. A method of processing customer's orders comprising the steps of:

(a) storing setting data for every article;

- (b) inputting ordered articles and storing order data of said ordered articles;
  - (c) predicting quantities of said articles to be prepared in response to a command signal generated in accordance with said stored order data inputted for a given time period; and
  - (d) displaying said quantities for every said articles in accordance with said setting data in response to said command signal.
33. A customer's order processing apparatus comprising:
- storing means for storing setting data for every article;
  - inputting means for inputting ordered articles and storing order data of said ordered articles;
  - predicting means for predicting quantities of said articles to be prepared in response to a command signal generated in accordance with said stored order data inputted for a given time period; and
  - display means for displaying said quantities for every said articles in accordance with said setting data in response to said command signal.

APPENDIX B

FIG. 3

# 0103	# 0104	# 0105	
2 HAMBURGER	2 M NUGGET	1 HAMBURGER	
2 CHEESEBURGER	1 S FRY	1 BIGBURGER	
1 L. FRY	2 CHEESEBURGER	1 M FRY	
	1 HAMBURGER	1 S NUGGET	

SLOW TIME ZONE DISP IMAGE

FIG. 4

	Q - 5	Q - 10
HAMBURGER	1	2
CHEESEBURGER	1	1
TERIYAKI	0	2
S FRY	0	1
M FRY	1	2
L FRY	0	1

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